DIETARY HABITS AND THEIR IMPROVEMENT

SOME RESULTS OF THE WORK OF PHIPPS INSTITUTE

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Anybody who has worked among the laboring classes and has any knowledge of the small wage-earner, realizes very quickly that there is no other class of people who are so shockingly extravagant and so ignorant in the making of their purchases, not only as to food but in other directions, and this holds true and did hold true long before food shortage became such a vital question; it has always been a vital question with them.

In one study that we made at Phipps Institute, some years ago, on the relationship that might possibly exist between tuberculosis and the garment-making trade, we found that in those individuals who were getting insufficient food or who were taking their food at irregular intervals the incidence of tuberculosis was higher than among those adequately fed. Among the men there was a very considerable proportion of those with a food deficiency who developed not only tuberculosis but other ailments; among the women, the proportion was almost three times as great as with those who were getting an adequate diet.[1] I have no hesitation in saying that malnutrition is probably one of the most potent causes of tuberculosis that we have among the working class. It leads to a lowered resistance and is to be ascribed in some instances to poverty, but quite as often it is due to ignorance on their part as to the food they should get.

Another study we made, of an intensive nature, was that of studying very completely, twelve families, these twelve families being represented by three Italian families, three Russian Jewish families, three negro families and three Polish families. This study was conducted for a period of two weeks, and in each of the families a very accurate estimation was made. A nurse went to each one of the homes and weighed all the food they had on hand when the study started, weighed all the food purchased each day and what

[1] Eighth Report, Phipps Institute, 1915.

was left at the end of the study was subtracted from the total. The amount used was then reduced to calories.

This study brought out some very interesting facts as to racial characteristics, not only as to the type of food but more particularly as to racial economy in food purchases.

The Italians made by far the best showing. Reducing each one of these families to men per day, we found that the Italian families were feeding themselves at the rate of nineteen cents per man per day. The negroes came next with twenty-two cents; the Russian Jews, twenty-four cents, and the Poles jumped up to thirty-four cents, and in one Polish family they were spending forty-two cents per man per day.[2]

As to the composition of the food, the Italians were getting almost 75 per cent of carbohydrates and were getting less than one-half of the amount of protein that is ordinarily believed to be necessary. In talking with Dr. A. E. Taylor about this, he offered the explanation that the Latin races, as a whole, are the only ones who have adequately solved the problem of preparing carbohydrate foods and have been able to cook them in a palatable form so that they are readily eaten and can be subsisted on without any great detriment.

The negro, for some reason, as I found not only in our own experiment but in other investigations, runs to a very high fat content in his diet. He not only eats large quantities of fat, but the other articles of his diet are commonly cooked in fat. The Russian Jews subsisted on a diet which was more nearly balanced than that of any of the others. The Polish families were getting a diet that was pretty fairly balanced, but in going over it and analyzing the diets per family, it was found that they were buying a large amount of food stuff in which there was no essential food value at all. In other words, they were extremely lavish in their expenditures and did not begin to get out of their purchases what they should in the way of absolute food value.

The result of this study was that it seemed apparent to us that the dispensary patient seems to be getting about four-fifths of the amount of food that he should. In other words there is just that subnormal amount all the time that is probably lowering his resist-

[2] The figures quoted are those of two and a half years ago.

ance and if there is any additional strain put upon him he readily falls the victim of some disease.[3]

The influence of good food has nowhere been better demonstrated than in our open-air schools. In the beginning children referred to the open-air schools were designated as tuberculous or pretuberculous. More often, however, they are delicate, undernourished children, who are without any apparent organic disease that you can put your hands on, the chief difficulty seeming to be that of malnutrition. When they are placed in an open-air school and supplied at the same time with at least one mixed meal, these children make the most amazing gains in weight.

A study somewhat similar to that made by us was conducted by Miss Lucy Gillette for the New York Association for Improving Conditions among the Poor. An intensive study was made of children. She found that there were certain variations as to the food requirements for different types of individuals. She points out very clearly that the delicate child, one that is emaciated and under-nourished, is one that inevitably needs a vastly larger food supply than the child under ordinary conditions.

I was much interested only a short time ago, as pointing to the ignorance of food values which I think obtains among the masses pretty generally, in a statement made by the Chief of the Department of Food Hygiene of the Argentine Republic, to the effect that, among the laborers in Argentina, as a whole, a most inadequate knowledge of and the most thriftless habits in regard to food prevailed. In his opinion there was most urgent need for legislation which would see to it that these people got a better balanced diet. Legislation, I believe, would not have the slightest influence. I think the problem is one entirely of education. This brings up the question of how to teach people the kind of and the amount of food that they should get each day. Personally, my experience has been that irrespective of the race, there is a tendency to take a diet that is more or less similar. One race may eat a little more fat and another go a little further in carbohydrates, but there is this tendency to use a mixed diet, and where they have their independent choice, they keep away from any set food formula.

But the essential thing is to teach people the quantity and quality of food desirable and in addition the relative values of

[3] Craig and Landis; Transactions Association American Physicians, 1916.

different foods. Our experience at the Phipps Institute has been that housewives vary tremendously in their purchasing abilities; one woman, for instance, for every ten cents, would get food equivalent to fifteen hundred calories, another would get only nine hundred. In other words, there was a difference of almost 40 per cent between the purchasing power of two women.

In some of the work that we have done in connection with tuberculosis classes, we watched more or less closely the amount of food the patients were getting. It was necessary, in almost every instance, to show them the kinds and amounts of food needed. If there were available four or five dollars a week for food in a family of five—I am quoting figures for six years ago—it became necessary in nearly every instance to show them exactly how they should spend those four or five dollars to get the food that would give them the best returns.

The only way we have of controlling the amount of food we are giving to an individual and determining whether that individual is on a subnormal diet or not, is by the caloric method. I want it understood, of course, that the calory does not mean everything. We have to take into consideration the preparation of the food and very often, the service of the food and, in addition, to keep in mind, the use of those foodstuffs which furnish the so-called vitamines. But the caloric method is necessary as a means of determining whether the individual is on a subnormal diet, or whether, perhaps, he is being overfed, as many are. In one school which was investigated, it was found that the boys were each receiving about 5,500 calories daily and in addition were getting about 500 more outside in the form of candy. In other words, they were tremendously overfed.

The difficulty with the caloric method has been that lay people as a whole have very little conception of what is meant by a calory; and it is undoubtedly true that many physicians have a very hazy idea of what is meant if you say that an individual should have 2,200 or 3,000 calories a day. The great trouble with the caloric method has been the difficulty of translating the values in intelligible form to the individual who knows nothing about them. One of the difficulties has been that it is a tremendous tax on the memory to recall that so many grams of a certain amount of food equal 135 calories, and so many grams of another kind of food equal 40 calories.

What I believe to have been a market advance in the introduction of the caloric method was a suggestion first made by Dr. Irving Fisher, by which you use a common unit of 100. The next advance in this line was made by Dr. William Emerson, of Boston, who translated these 100 calories into perfectly familiar terms so that even the most ignorant housewife could understand. He has reduced them, for instance, to teaspoonfuls, cupfuls and so on—a teaspoonful of a given amount of food equals a hundred calories, so in that way the values could be very easily followed. He has had an exhibit prepared on these lines which he has used with extraordinarily good effect in the teaching of dietetics to delicate children. In this way he has been able to teach children, of even seven or eight years of age, how many calories they have taken a day and how many more they need to make up their quota. It is not so difficult to teach even the individual with a very slight amount of education what you mean when you say that he must have 2,200 or 2,400 calories of food per day when this is translated into familiar measurements. I have had one of these food exhibits made because it visualizes these values and enables one to learn more in a few minutes than any amount of talking would do concerning caloric feeding.

For instance, it does not take very long to remember that approximately a quart of bouillon made of the very best meat you can get is 100 calories, and you can contrast that with two tablespoonfuls of lima beans, which have a food value of 100 calories. The banana, equaling 100 calories, is one of the easiest articles of diet to get, is always on the market, and has recently been shown to be practically the equivalent of the potato. It can be eaten as almost the sole and only diet. The chief difficulty with the banana is that so often it is sold green, or partially so. One roll equals 100 calories; one pat of butter equals 100 calories; four of the ordinary Uneeda biscuits equal 100 calories; the lean portion of one lamb chop equals 100 calories; twelve double peanuts equal 100 calories; a piece of fish about the size of the palm of the hand equals 100 calories; a teaspoonful of peanut butter equals 100 calories; and so you can go through the whole list, reducing the commoner foodstuffs to a basis that anybody can understand. Extreme accuracy is not claimed for this plan but it does serve to give a fairly clear idea of what the individual should receive.

I used this method a part of last year with medical students and their own testimony was that they were able to get a clearer idea in fifteen minutes as to what was meant by caloric feeding by being able to visualize the articles, than they were by reading pages and pages of tabulations showing that so many grams of one thing equaled so many calories, and so many grams of something else equaled so many more calories. I intend to use the method this winter with dispensary patients to find out, in the first place, approximately how much food they are getting. It has been our experience that many of the patients who come to Phipps Institute are getting food which amounts to but 1,200, 1,500 or 1,800 calories when their disease demands that they should be getting about twice that amount; and quite as often as not you will find that their deficient dietary is not a result of the fact that they have not money enough to get the food, but because they are not purchasing the right kinds of food.

Whether a better method than this one can be devised for the teaching of dietetics among people who have no knowledge whatever of food values, I do not know. I do know this, that prior to my seeing this exhibit, I had a very poor idea as to what my daily food consumption was. I had not the slightest idea whether I was getting 1,500 or 3,000 calories, but with this method I can compute it with a fair degree of accuracy.

A GUIDE TO THE NATION'S DIETARY NEEDS

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There are many popular theories current regarding the food habits and customs of different nations and regions and even more theories as to how those habits and customs might be changed to the benefit of mankind, but to a large extent these are based on inadequate observation, often merely on personal impressions, or even on the somewhat prejudiced opinions of the food faddist or the commercial exploiter. Evidently if we are to say with anything like accuracy how the nation can best be fed, we must have more definite